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REMARKS

In the Office Action dated April 30, 2004, claims 1-20 are pending. Claims 1-11 have been canceled. Claim 12 is an independent claim from which claims 13-20 depend therefrom. Claim 12 has been amended. Note that claim 12 has not been amended for patentability reasons, but has rather been amended for clarification reasons.

Claim 12 stands rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Office Action requests that the Applicants clarify whether the design criteria generated in line 6 is intended to be the same design criteria used to provide the tooling.

Applicants having amended claim 12 to clarify the limitations in original lines 3-6 of claim 12. The method of claim 12 now includes the generation of a design criteria for a superconducting magnet. A preformed support tooling is designed and provided in response to and according to the design criteria for the superconducting magnet. The same design criteria is utilized in designing and providing the preformed support tooling. Applicants submit that claim 12 now clearly and distinctly claims the subject matter which Applicants regard as the invention. Claim 12 is therefore in a condition for allowance at least with respect to 35 U.S.C. 112.

Claims 12-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Petropoulos et al. (U.S. 6,078,177) in view of Westervelt et al. (U.S. 4,554,730).

Claim 12 recites a method of fabricating a superconducting magnet support structure. The method includes the generation of design criteria for a superconducting magnet. A preformed support tooling is designed for the superconducting magnet coil support structure in response to the design criteria.

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The preformed support tooling is provided and dimensioned according to the design criteria. An integrated multi-layer glass tape is applied to the preformed support tooling by a wet winding process. Thereafter, the multi-layer glass tape is cured. The cured multi-layer glass tape is machined before the application of the superconducting magnet to the superconducting magnet support structure.

Petropoulos discloses a method for designing a shielded gradient coil assembly. The Office Action states that Petropoulos discloses the designing of a support tooling for a superconducting coil support structure and the generating of design criteria therefore, and in so doing refers to col. 1, lines 32-51 for such disclosure. Applicants, respectfully, traverse. In col. 1, lines 32-51, Petropoulos discloses the winding of discrete coils on a hollow cylindrical former. Coils are applied to the former until a desired gradient strength is achieved. Coil positions are defined and shifted as necessary to satisfy field and inductance design parameters. Nowhere in the stated section or anywhere else in Petropoulos is a preformed support tooling designed or fabricated. In the stated section of Petropoulos the number and position of the coils are determined, whereas in the method of claim 12 the dimensions of a preformed support tooling are determined. There is a clear and distinct difference between the designing and manufacturing of a gradient coil and the designing and manufacturing of a preformed support tooling for a superconducting magnet.

The Office Action further states that Petropoulos does not disclose the limitation combination of designing a support tooling and utilizing a wet winding process and a subsequent curing process for making a coil formed with glass tape. Applicants agree and submit that Petropoulos not only fails to teach or suggest the designing of a preformed support tooling, as stated above, but also fails to teach or suggest any of the other limitations recited in claim 12. Applicants also submit that

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claim 12 recites a method of fabricating a superconducting magnet support structure not a method of designing or manufacturing a coil.

The Office Action states that Westervelt discloses wet winding a glass tape about a dimensioned mandrel and applying a subsequent curing process thereto, and refers to col. 2, lines 1-30 for such disclosure.

Westervelt discloses a method of making void-free non-cellulose electrical winding. In Westervelt a winding is formed and embedded within a resin over a substrate. Again, Applicants submit that claim 12 recites a method of fabricating a superconducting magnet support structure not a method of designing or manufacturing a coil. Claim 12 has been amended to further clarify this through the additional limitation of machining a cured multi-layer glass tape before applying a superconducting magnet to a superconducting magnet support structure. The limitations of claim 12 recite the formation of a preformed support tooling to support a superconducting magnet, the limitations do not recite the formation of the superconducting magnet itself or the embedding of a superconducting magnet in resin.

Thus, Petropoulos and Westervelt alone or in combination fail to teach or suggest each and every limitation of claim 12, as is required to establish a *prima facie* case of obviousness, see MPEP 706.02(j). Therefore, Applicants submit that claim 12 is novel, nonobvious, and is in a condition for allowance. Also, since claims 13-20 depend from claim 12, claims 13-20 are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

Additionally, Applicants submit that both Petropoulos and Westervelt are nonanalogous art and that there is no suggestion or motivation provided in either reference or within the Office Action for such a combination and modification thereof to arrive at the claimed invention. Referring to MPEP 2141.01(a), while the Patent Office classification of references and cross-references in the official search

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notes are some evidence of "nonanalogy" or "analogy" respectively, the court has found "the similarities and differences in structure and function of the inventions to carry far greater weight." *In re Ellis*, 476 F.2d 1370, 1372, 177 USPQ 526, 527 (CCPA 1973). Both Petropoulos and Westervelt would not have logically commended themselves to the inventors' attention in considering the problems solved by the method of claim 12. In manufacturing a superconducting magnet support structure, one would clearly not look to a method of designing a coil to satisfy desired field strength and inductance parameters as disclosed in Petropoulos. Also, one would not look to a method of manufacturing a coil winding, as is disclosed by Westervelt. Neither Petropoulos nor Westervelt recite a method of forming a support structure for a superconducting magnet. As stated above, Westervelt discloses the embedding of a coil in resin over a substrate. Westervelt does not disclose a method of forming the substrate. The methods of Petropoulos and Westervelt would not have logically commended themselves to the Applicants' attention in solving the problems associated with the formation of a support tooling or superconducting magnet support structure. Petropoulos and Westervelt would not be reasonably pertinent to the particular problems solved by the method of claim 12.

Claims 12-19 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of co-pending Application No. 09/681,888. Referring to MPEP 804, a double patenting issue may arise between two or more pending applications, between one or more pending applications and a patent, or in a reexamination proceeding. Applicants submit that Application No. 09/681,888 has been abandoned and is no longer pending. Thus, there does not exist any double-patenting type issues between the presently claimed invention and that claimed in Application No. 09/681,888.

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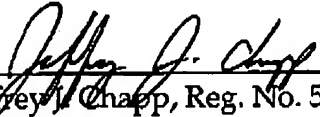
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In light of the amendments and remarks, Applicants submit that all rejections are now overcome. The Applicants have added no new matter to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, he is respectfully requested to call the undersigned attorney.

Respectfully submitted,

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